

# Attrition in Psychiatric Clinics for Children

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THE PAST DECADE has seen an increase in the number of outpatient psychiatric clinics for children, yet facilities are not and may never be adequate to meet the need. Even if the necessary funds were available, recruitment of trained personnel would be difficult. Moreover, the increasing demand for psychiatric services as the public becomes more aware of their value may far outstrip future expansion of clinic facilities.

Without in any way minimizing the need for more psychiatric facilities, it may be well to ask whether present clinics are now being fully used in giving direct psychiatric services to children. There appears to be a large proportion of patients or parents acting for them who terminate contact with the clinic before service is completed. Karpe (1) reports an overall attrition rate (patient and parent termination of clinic contact) of 26 percent, and Anderson and Dean (2), of 31 percent. Simon (3) mentions a considerably higher rate, 53 percent, which is broken down into rate of termination at intake (21 percent) and during treatment (32 percent). Golden (4) reports 14 percent attrition at intake, and Gray (5) states that one third of the patients did not return after intake. Witmer (6) does not give an overall rate but mentions that more than half of the cases in treatment withdrew before service was completed.

With the exception of Anderson and Dean,

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these and other investigators (7-9), using case history data or telephone followup contact, have concerned themselves with reasons for termination or with factors associated with attrition. The factors studied have included sex, age, occupation of father, number of siblings, and distance from the clinic, as well as more subjective items such as parental attitudes toward the child or toward treatment and the ability of the parent to express anxiety.

These studies of attrition and the factors associated with it, although useful in pointing up an important problem, have certain limitations. In general, the phase of the clinic process at which attrition occurred, whether intake, diagnostic evaluation, or treatment, is not indicated. Without such a breakdown of the data, it would be difficult for clinics to focus their efforts toward remedying the situation. Moreover, factors associated with attrition may vary from phase to phase. The rationale for inclusion or exclusion of cases in computing attrition rates is not always clear nor are the samples clearly defined. For the most part, the data are based on small samples of less than 100 cases. In the studies concerned with factors associated with attrition, it is difficult to interpret the findings since the data generally have not been subjected to statistical test.

The purposes of this study, designed to avoid the limitations mentioned above, are to estimate attrition rates at each phase of the clinic process and to investigate the relationship between attrition at each phase and a number of personal and social factors. The study was conducted by the division of mental health, Philadelphia Department of Public Health, in cooperation with the health division of the Philadelphia Health and Welfare Council.

## The Study Sample

During the calendar year 1955, 1,813 children were admitted to 11 of 12 children's outpatient psychiatric clinics in Philadelphia. A clinic is defined as "a psychiatric outpatient service for ambulatory patients where a psychiatrist is in attendance at regularly scheduled hours and takes the medical responsibility for all the patients in the clinic. Clinics that have only a psychiatrist on call or as a consultant are not included. However, a clinic which has budgeted funds for employing a psychiatrist but is temporarily without one is included" (10). The 11 clinics served a varied number of patients. One had an intake of more than 800; two had an intake of about 250 each; three between 100 and 150 each; and five, less than 60 each. Of the last group, two had an intake of less than 10 each. The one clinic not included in this study had a very small intake.

From this group of 1,813 admissions, which represented almost all children receiving service through public or voluntary psychiatric clinics, 1,548 were selected for study of attrition. Of the 265 cases excluded from the study, 8 were patients for whom it was not possible to determine at what phase attrition occurred and 257 were patients who had been referred for special services. Twenty-eight of the latter were referred for consultation only, that is, usually a single interview with parent or social agency on the management of a particular child, and 229 came for diagnostic evaluation only, primarily at the request of private psychiatrists or hospitals.

Of the 1,548 patients, 67 percent were boys and 33 percent, girls. Seventy-five percent were white and 22 percent, nonwhite; in 3 percent of the cases race was not stated. Ages ranged from 1 to 17 years: 14 percent were under 6, 28 percent between 6 and 8, 23 percent between 9 and 11, 23 percent between 12 and 14, and 12 percent between 15 and 17 years of age. In 33 percent of the cases, the patient came from a home broken by separation or divorce or death of one or both parents. Thirty-two percent were Protestant, 23 percent Catholic, 29 percent Jewish, and 16 percent of other or not-stated religions.

Information about the father's occupation was not available in almost half the cases. The most that can be said is that the entire range of occupations was represented and that those in the professional, managerial, and proprietary occupations were at least equal to their proportion in the general population.

Referral sources were as follows: schools, 32 percent; parents, friends, and relatives, 20 percent; private physicians, 19 percent; hospitals and clinics, 17 percent; social agencies, 7 percent; courts, 3 percent; other sources and not stated, 2 percent.

By examination of the case record including case summary or concluding interview, data were obtained regarding outcome of contact at each phase of the clinic process (intake, diagnostic evaluation, and treatment): whether the case was terminated by the patient, terminated by the clinic, or continued into the next phase.

Operationally, a case was considered terminated by the patient when evidence in the case record indicated that the patient did not return to the clinic after breaking appointments or when the patient or his parent notified the clinic that he no longer wished to continue. In a very small number of cases the patient had moved from the city, been admitted to an institution, or died.

A case was considered terminated by the clinic when the patient was discharged because he had shown sufficient improvement; when the clinic had made other plans for the child, for example, referral to appropriate agencies in the community or, on occasion, to a private psychiatrist; when clinic policy made the child no longer eligible for service because of age or school dropout, or because long-term psychotherapy was indicated which the clinic was unable to provide; or when the clinic felt that further therapy was not indicated because the patient or responsible relative was not able to benefit from continued treatment.

## Results

The data on outcome of contact with the clinic (table 1) showed that 31 percent of the cases were terminated by the patient and 4 percent by the clinic during or at the end of the intake phase; in 1 percent outcome was not stated. The majority, however, 65 percent

**Table 1. Outcome, in percentages, of contact for children admitted to psychiatric clinics, at each phase of clinic process, by race and sex, Philadelphia, 1955**

Outcome	Intake phase						Total group N=1,548
	White		Nonwhite		Race not stated		
	Male N=780	Female N=374	Male N=221	Female N=121	Male N=40	Female N=12	
Patient terminated.....	31	33	33	25	25	25	31
Clinic terminated.....	3	4	4	2	3	0	4
To diagnosis.....	65	62	62	72	68	75	65
In process.....	0	( <sup>1</sup> )	( <sup>1</sup> )	0	0	0	( <sup>1</sup> )
Not stated.....	1	1	1	1	5	0	1
	Diagnostic evaluation phase						Total group N=1,000
	White		Nonwhite		Race not stated		
	Male N=509	Female N=232	Male N=136	Female N=87	Male N=27	Female N=9	
Patient terminated.....	13	12	19	22	15	33	15
Clinic terminated.....	9	12	10	13	26	0	11
To therapy.....	74	70	68	60	44	44	70
In process.....	1	( <sup>1</sup> )	0	0	0	0	( <sup>1</sup> )
Not stated.....	3	5	3	6	15	22	4
	Treatment phase						Total group N=702
	White		Nonwhite		Race not stated		
	Male N=379	Female N=163	Male N=92	Female N=52	Male N=12	Female N=4	
Patient terminated.....	45	43	33	33	50	0	42
Clinic terminated.....	25	28	23	36	0	25	26
In process.....	14	15	13	8	17	25	14
Not stated.....	16	13	32	23	33	50	18

<sup>1</sup> Less than 0.5 percent.

(1,000 cases), moved into the diagnostic evaluation phase. Of these, 15 percent were terminated by the patient at some point in or at the completion of the diagnostic evaluation phase, while 11 percent were terminated by the clinic, and 4 percent had an unstated outcome. Again the majority, 70 percent (702 cases), moved into the treatment phase. Of these, 42 percent were terminated by the patient, and 26 percent were terminated by the clinic, 16 percent as improved, 5 percent referred to other agencies or services, and 5 percent for other reasons. The proportion of cases terminated by the

patient in the treatment phase is probably an underestimation because 14 percent were still in treatment, or awaiting treatment, and in 18 percent of the cases no information was available about outcome. Irrespective of phase, the overall attrition rate (patient or parent termination of clinic contact) was 59 percent of all clinic admissions.

The data given above for all clinics combined do not indicate the variation from clinic to clinic. Excluding clinics with an intake of less than 25 cases, the following variations were found among eight clinics. At the intake phase

the proportion of cases terminated by the patient ranged from none to 45 percent; those terminated by the clinic from none to 6 percent; and the proportion of cases that moved into the diagnostic evaluation phase ranged from 49 percent to 100 percent. At the diagnostic evaluation phase, termination by the patient varied from 2 percent to 34 percent; termination by the clinic from 2 percent to 20 percent; and the proportion that moved into the treatment phase varied from 40 percent to 96 percent. At the treatment phase patient termination varied from 10 percent to 55 percent, and clinic termination from 5 percent to 52 percent. The amount of patient termination at any one phase was not found to be significantly related to patient termination at any other phase. The attrition rate for all phases varied from 26 percent to 71 percent. The variation in attrition among the different clinics at any phase or all phases is probably due to a number of factors including type of clientele, length of waiting period, fee schedule, and clinic policy and procedure.

To determine what factors were associated with outcome of contact, comparisons were made at the intake and diagnostic evaluation phases based on the proportion of cases that were (*a*) continued, that is, moved into the next phase of the clinic process, (*b*) patient terminated, and (*c*) clinic terminated. In the treatment phase, comparisons were based on the proportion of cases that were patient terminated and clinic terminated. In this phase, the findings should be interpreted with caution since cases in treatment or awaiting treatment and those with unknown outcome were not included in the analysis.

Sex, race, and age were not found to be related to outcome at any phase of the clinic process, but certain other factors were significantly related: referral source, living arrangements of child, religious affiliation, number of problems presented, and distance from the clinic (table 2).

Referral source was related to outcome at the intake and diagnostic evaluation phases only. At the intake phase, referrals by social agencies and by hospitals and clinics were more likely to be continued and less likely to be patient

terminated than were referrals by other sources. At the diagnostic evaluation phase, the pattern was different. Although referrals by social agencies again showed the highest proportion in the continued and the lowest in the patient-terminated group, those by hospitals and clinics were next to the lowest in the continued and next to the highest in the patient-terminated groups. Referrals by parents, friends, and relatives, by schools, and by private physicians were among the highest in the continued and in the middle range in the patient-terminated group. Court referrals were least likely to be in the continued group and most likely to be patient terminated. Referrals by courts and by hospitals and clinics were highest in the clinic-terminated group while those by schools were the lowest.

Living arrangements of the child had a bearing on outcome of contact at the intake and treatment phases only. At the intake phase, children in institutions or foster homes were most likely to be in the continued group, whereas those in homes with a step-parent were least likely to be continued. At the treatment phase, the proportion of patient terminations was lower for children in institutions or foster homes than for those with any other living arrangement and highest for those living with relatives. The tendency for children in institutions or foster homes to carry through was not unexpected in view of the finding that social agency referrals hold up best.

Religious affiliation, studied for whites only, was associated with outcome of contact at the diagnostic evaluation phase only. A higher proportion of Jews than of Catholics or of Protestants were in the continued group; and Jewish contacts were least likely to be either patient terminated or clinic terminated.

The number of problems presented by the children, as reported usually by parents at the initial contact with the clinic, was associated with outcome of contact at each phase of the clinic process. The problems had been classified in 12 categories: anxiety and neurotic symptoms, severe psychiatric symptoms, withdrawal behavior, school problems, mental retardation, aggression, antisocial behavior, difficulties in interpersonal relationships,

**Table 2. Factors associated with outcome of contact,<sup>1</sup> at each phase of clinic process, for children admitted to psychiatric clinics, Philadelphia, 1955**

Factor	Intake			Diagnostic evaluation			Treatment				
	Number of cases	Percent			Number of cases	Percent			Number of cases	Percent	
		Continued	Patient terminated	Clinic terminated		Continued	Patient terminated	Clinic terminated		Patient terminated	Clinic terminated
Referral source:											
Parents, etc.....	302	60	36	5	175	78	11	11			
Schools.....	488	61	36	3	290	78	18	5			
Courts.....	53	62	32	6	32	53	22	25			
Private physicians.....	293	63	32	4	177	75	15	10			
Hospitals and clinics.....	254	73	25	2	171	61	20	19			
Social agencies.....	105	82	14	4	84	83	5	12			
Other.....	14	64	29	7	9	78	22	0			
Living arrangements:											
Both parents.....	1,012	65	32	3					326	64	36
Parent and step-parent.....	113	51	43	5					26	65	35
One parent.....	262	68	26	6					80	61	39
Relatives.....	50	62	34	4					10	90	10
Institution or foster home.....	74	89	8	3					34	29	71
Religious affiliation: <sup>2</sup>											
Protestant.....					147	72	14	14			
Catholic.....					181	70	18	12			
Jewish.....					288	87	8	6			
Number of problems: <sup>3</sup>											
Less than three.....	888	70	27	2	590	69	19	13	258	55	45
Three or more.....	633	58	38	4	359	81	10	9	215	69	31
Distance from clinic: <sup>4</sup>											
Near health district.....					295	72	16	11			
Far health district.....					241	85	10	5			
Same health district.....					65	58	25	17			
Other health district.....					471	81	12	7			
City resident.....	996	56	40	4					319	67	33
Nonresident.....	183	72	23	5					73	51	49

<sup>1</sup> Data in the table are limited to those where the differences were significant at or below the .01 level of confidence. Leaders indicate "not significant."

<sup>2</sup> Based on whites only.

<sup>3</sup> Expressed as categories.

<sup>4</sup> Based on three largest clinics.

somatic symptoms, problems of habit formation, sexual problems, and miscellaneous.

Categories of problems, not the number of problems within the category, were analyzed. For example, if poor school work, truancy, and cheating were reported for one patient, he was treated as one individual presenting a school problem. In reporting the data, number of problems refers to number of categories. At the intake phase, children with three or more problems were less likely to be in the continued and more apt to be in the patient-terminated group than were those with less than three problems. At the diagnostic evaluation phase, however, the pattern was just the opposite. At the treatment phase, children with the most

problems were more likely to be patient terminated. It is recognized that the relationship between number of problems and severity cannot be established with any degree of accuracy nor can the combinations of problems be equated. Within the limitations of the data, however, patients presumably in greater need of psychiatric help were more likely to terminate contact than those in less need of help at both the intake and treatment phases.

It has been suggested that distance from the clinic affects attendance, that is, patients who must travel long distances to the clinic are less likely to maintain contact. Such opinion is not supported by the data. If anything, the relationship is just the opposite.

To determine the effect of distance from the clinic on clinic contact, only cases from the three largest clinics were studied because of complexities of analysis. Comparisons with respect to distance from the clinic were made in three ways. The first involved a division of the cases by residence in near and far health districts. (For administrative purposes, Philadelphia is divided into 10 health districts.) "Near" refers to the health district in which the clinic was located and those contiguous to it. "Far" refers to health districts farther removed. In the second comparison patients residing in the district in which the clinic was located were compared with those in all other health districts. The third comparison involved a division of the cases by residence in or outside the city.

At the intake and the treatment phases, no difference was found between the near and the far, or between the same and the other health districts. However, at both phases, city residents were more likely to be patient terminated than were nonresidents. It should be pointed out that some areas outside the city are closer to certain clinics than are some areas within the city. At the diagnostic evaluation phase, a higher proportion of those living in near districts than of those in far districts were patient terminated; the same tendency was found for the same and the other health districts.

The findings with respect to the factors associated with outcome of contact show variation at different phases of the clinic process. This is probably due in part to the increasing homogeneity of the clinic population as it moves from one phase to another, but also to changes in the situation within the family or the clinic during the months that may elapse between the initial clinic contact and the other phases.

It is most difficult to isolate the effect of specific factors on outcome since there is interaction among some of the factors. Moreover, other factors on which no information was available may have been operating. For example, socioeconomic level was undoubtedly a factor in the relationship between outcome and distance from the clinic since children living in the farther health districts or out of the city are more likely to come from a higher

socioeconomic stratum than those living in nearer health districts or within the city.

### Discussion

This study of 1,548 patients admitted to 11 psychiatric clinics for children in a large city has shown a high proportion terminating contact before service was completed, especially in the treatment phase.

Even though the patient has terminated contact he may have received some benefit, and the family may have a better understanding of his problem and how to cope with it. In some cases, in the absence of more appropriate facilities, children may be accepted for treatment because of the severity of the problem, with full recognition that certain factors militate against a successful outcome. There may also be factors not wholly within the clinic's control that affect the attrition rate. One factor undoubtedly is a limited appreciation by the public of the nature of psychiatric treatment and the amount of progress to be expected in a given period of time. When a crucial problem has been resolved to some extent, thereby reducing tensions in the home, some families may terminate contact before the clinic feels it advisable. Another factor may be the cost of clinic service, which some families may consider too high because of other pressing demands on their income.

In the light of present knowledge and the public's attitude toward psychiatry, it may be that a high attrition rate cannot be avoided. However, in the absence of adequate data such a conclusion cannot be considered valid. Although this study provides data about certain factors associated with attrition, more information, collected on a systematic basis, is needed regarding not only the personal and social characteristics of patients who terminate contact but also the more subtle motivational factors that affect clinic attendance. Research of this kind will provide the basis for further refinement of criteria for selection of patients and of procedures for reducing the attrition rate. Since the magnitude of the problem varies from phase to phase among the different clinics, each clinic needs to determine for itself, by an examination of the caseload, at what point in the process efforts should be focused.

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## Trial of Drugs for Gout

Zoxazolamine is undergoing clinical trial for the treatment of gout at the National Institute of Arthritis and Metabolic Diseases, Public Health Service.

Zoxazolamine has been used for several years as a muscle relaxant. Its possibilities in the treatment of gout were noticed in studies of the drug's metabolic breakdown in the body, during which large amounts of uric acid crystals were observed in patients' urine.

The original studies were made by Dr. J. J. Burns of the National Heart Institute and research workers at the Mount Sinai and Goldwater Memorial Hospitals in New York City, under a grant from the National Institute of Arthritis and Metabolic Diseases.

Dr. J. E. Seegmiller of the institute's Arthritis and Rheumatism Branch is directing a larger and more intensive clinical trial of

zoxazolamine. To date studies have shown that the drug is approximately six times more potent than other uricosuric drugs.

Another uricosuric drug, sulfinpyrazone, is also being studied at the institute. The two drugs given together appear to produce greater uric acid excretion than either singly.

Gout affects approximately 300,000 persons in this country. Usually the first sign of this arthritic disease is excruciating pain and swelling. Attacks recur at irregular intervals.

A disturbance in body chemistry which results in an increase in the amount of uric acid in the blood and tissues is associated with both chronic gout and acute gouty arthritis. The uric acid is often deposited in cartilage, and in time the deposits grow until they form masses of chalky uric acid salts.